FIG. 1

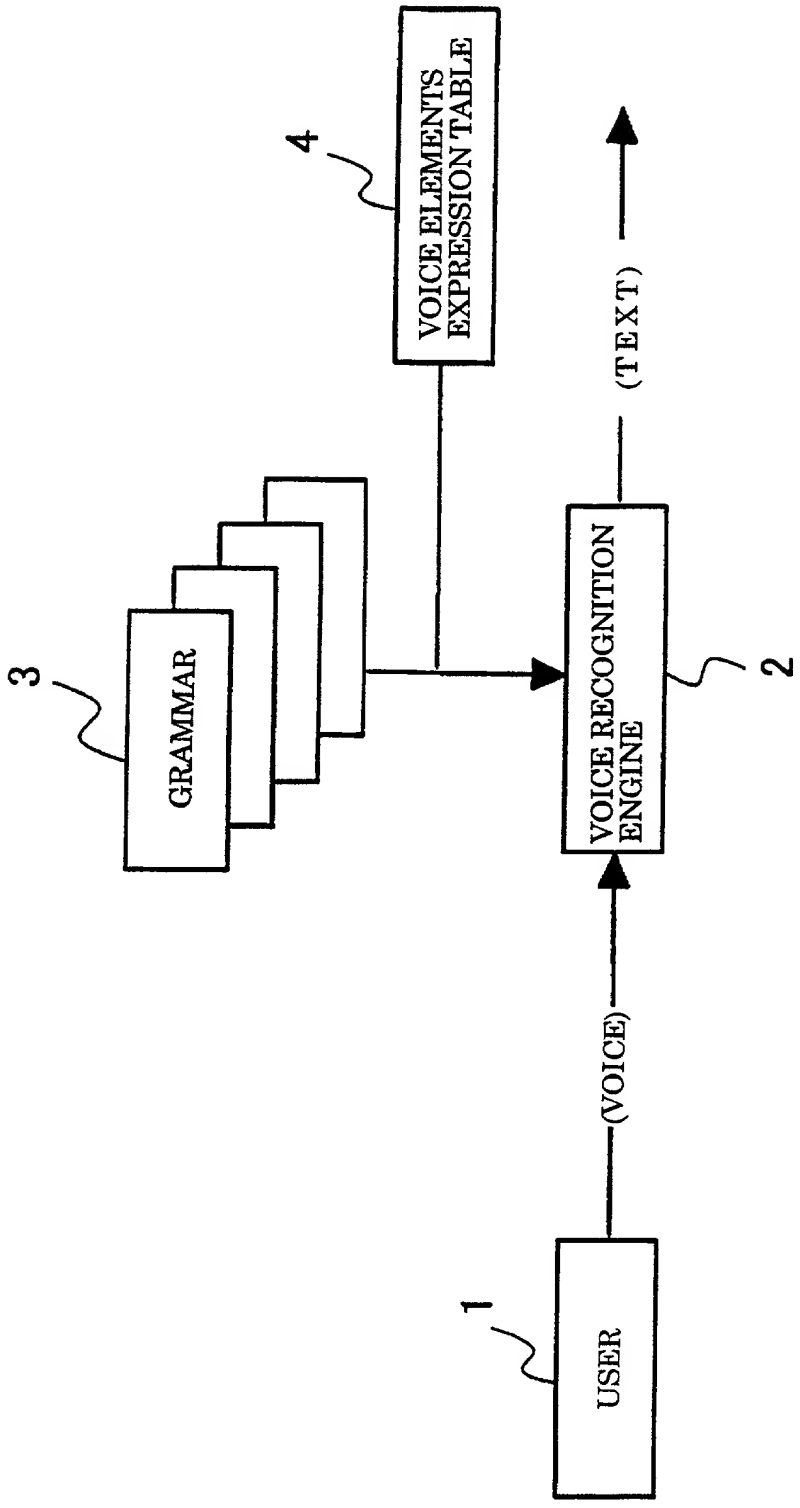

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FIG. 2

0 (REI)	r e e
0 (REI)	r e e:
0 (REI)	r e i
0 (ZERO)	z e r o
1	i ch i
2	n i
2	n i i
2	n i i:
3	s a_n
4 (SHI)	sh i
4 (SHI)	sh i i
4 (SHI)	sh i i:
4 (YON)	y o_n
5	g o
5	g o o:
5	g o u
6	r o k u
7 (SHICHI)	h i ch i
7 (NANA)	n a n a
7 (SHICHI)	sh i ch i
8	h a ch i
9 (KU)	k u
9 (KYUU)	ky u u
9 (KYUU)	ky u u:

FIG. 3

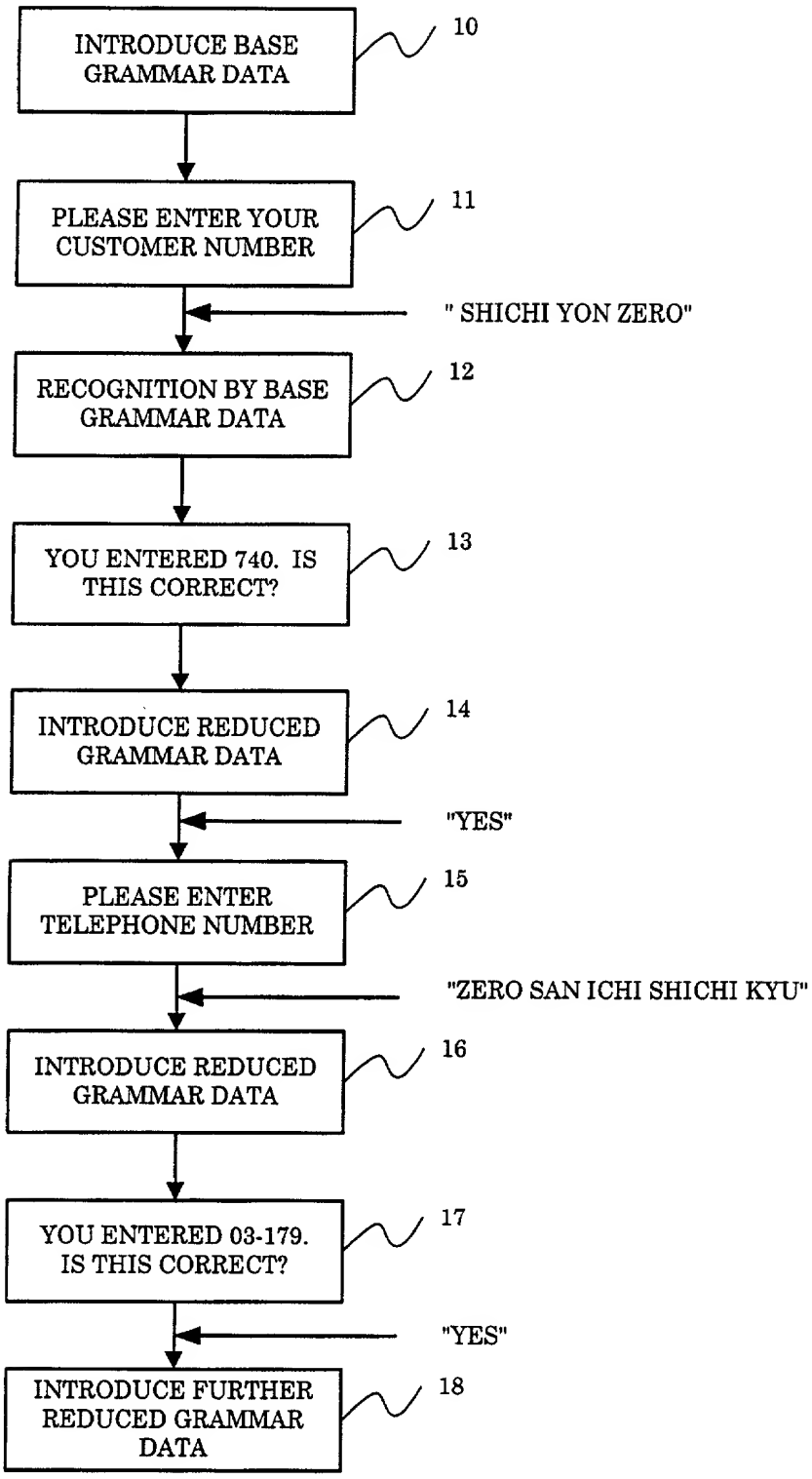

INTRODUCE BASE GRAMMAR DATA
10
PLEASE ENTER YOUR CUSTOMER NUMBER
11
" SHICHI YON ZERO"
RECOGNITION BY BASE GRAMMAR DATA
12
YOU ENTERED 740. IS THIS CORRECT?
13
INTRODUCE REDUCED GRAMMAR DATA
14
"YES"
PLEASE ENTER TELEPHONE NUMBER
15
"ZERO SAN ICHI SHICHI KYU"
INTRODUCE REDUCED GRAMMAR DATA
16
YOU ENTERED 03-179. IS THIS CORRECT?
17
"YES"
INTRODUCE FURTHER REDUCED GRAMMAR DATA
18

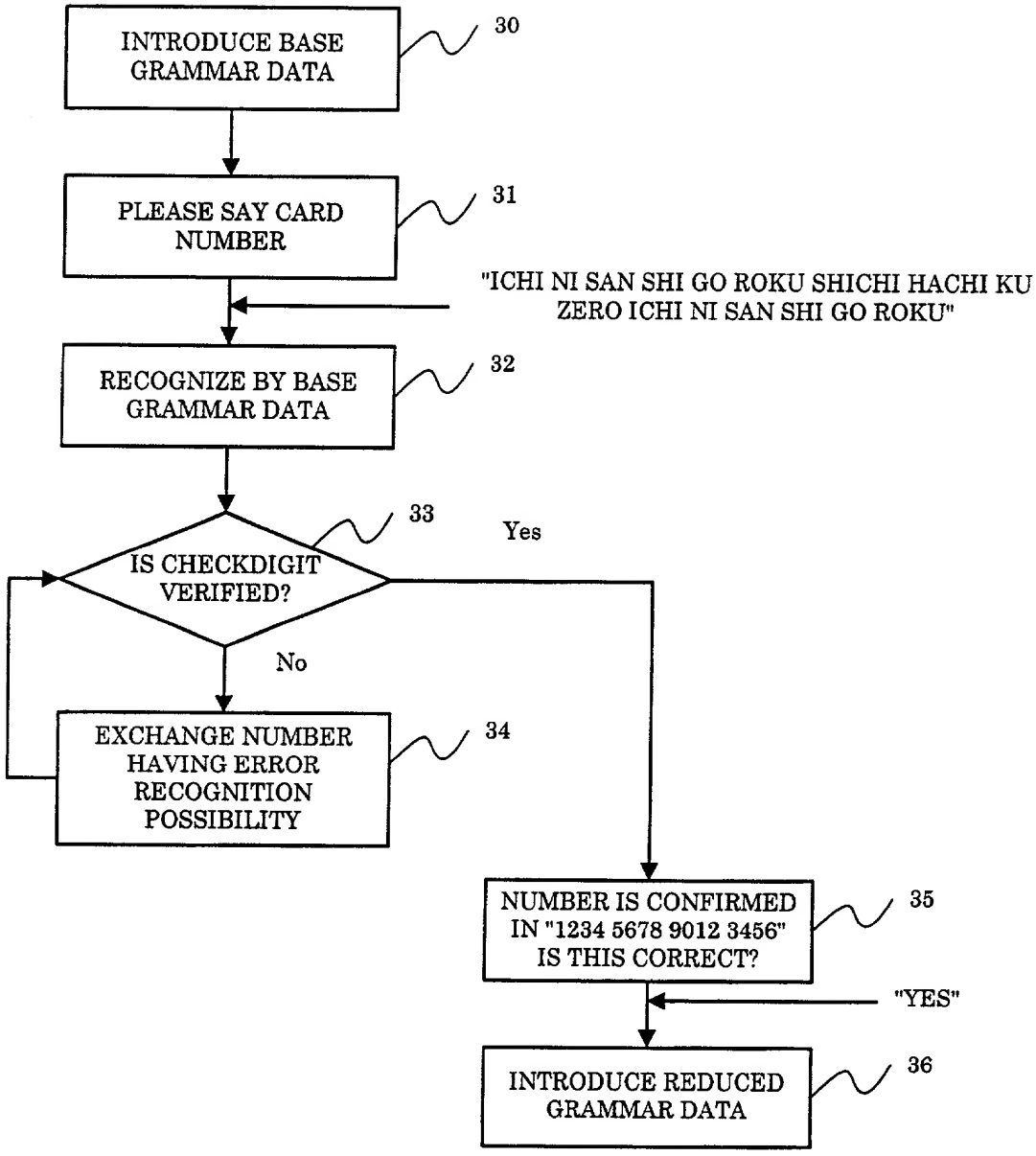
FIG. 4

```
<digits>::=<num1><num1><num1> .
<num1>=
0 |
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 .

<0> = | z e r o .                ← 22
<1> = | i ch i .
<2> = | n i | n i i | n i i: .
<3> = | s a_n .
<4> = | y o_n .                  ← 21
<5> = | g o | g o o: | g o u .
<6> = | r o k u .
<7> = | h i ch i | sh i ch i .   ← 20
<8> = | h a ch i .
<9> = | k u | ky u u | ky u u: .
```

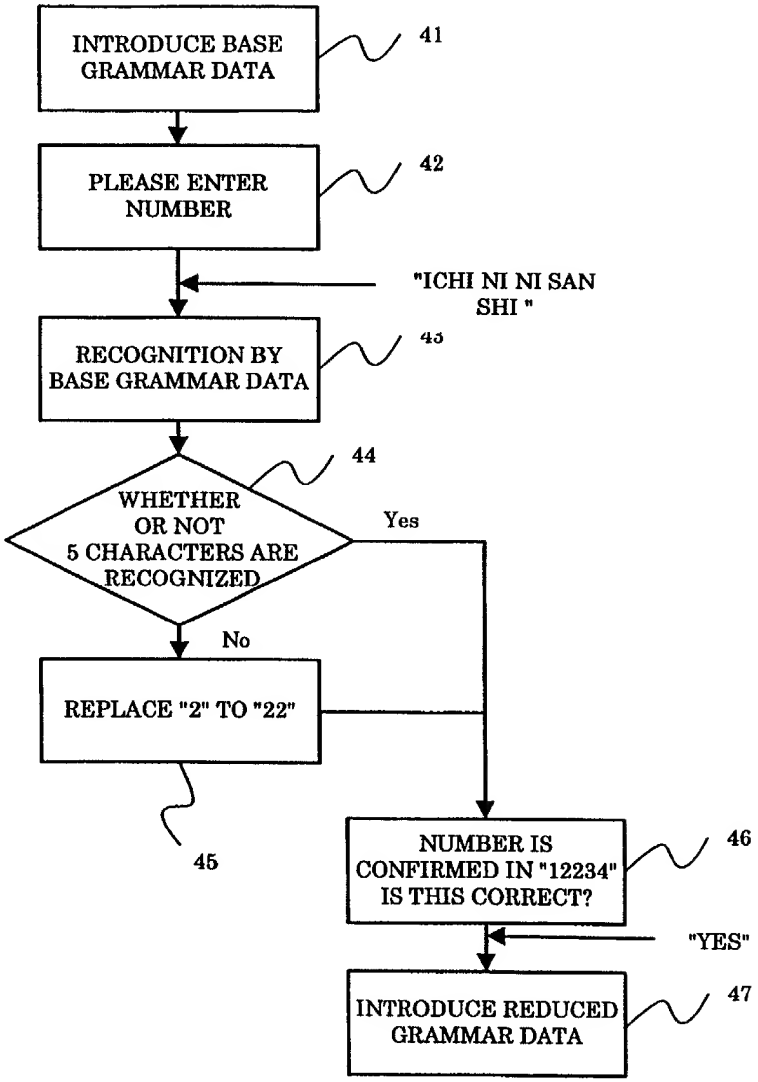
FIG. 5

```
<digits>::=<num1><num1><num1> .
<num1>=
0 |
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 .

<0> = | z e r o .
<1> = | i ch i .
<2> = | n i | n i i | n i i: .
<3> = | s a_n .
<4> = | y o_n .
<5> = | g o | g o o: | g o u .
<6> = | r o k u .
<7> = | h i ch i | sh i ch i .
<8> = | h a ch i .
<9> = | ky u u | ky u u: .        ← 23
```

FIG. 6


INTRODUCE BASE GRAMMAR DATA
30
PLEASE SAY CARD NUMBER
31
"ICHI NI SAN SHI GO ROKU SHICHI HACHI KU ZERO ICHI NI SAN SHI GO ROKU"
RECOGNIZE BY BASE GRAMMAR DATA
32
IS CHECKDIGIT VERIFIED?
33
Yes
No
EXCHANGE NUMBER HAVING ERROR RECOGNITION POSSIBILITY
34
NUMBER IS CONFIRMED IN "1234 5678 9012 3456" IS THIS CORRECT?
35
"YES"
INTRODUCE REDUCED GRAMMAR DATA
36

(a)



(b)

```
<digits>::=<num1><num1><num1><num1><num1>.      ← 40
<num1>=
0|
1|
2|
3|
4|
5|
6|
7|
8|
9.

<0> = |r e e|r e e:|r e i|z e r o.
<1> = |i c h i.
<2> = |n i|n i i|n i i:.
<3> = |s a_n.
<4> = |sh i|sh i i|sh i i:|y o_n.
<5> = |g o|g o o:|g o u.
<6> = |r o k u.
<7> = |h i c h i|n a n a|sh i c h i.
<8> = |h a c h i.
<9> = |k u|ky u u|ky u u:.
```

FIG. 7

FIG. 8

```
<digits>::=<num1><num1> .
<num1>=
0 |
1 |
2 |
3 |
4 |
5 |
6 |
7 |
8 |
9 .

<0> = | zero | zero | zero | <rei> .
<1> = | i ch i .
<2> = | n i | n i i | n i i: .
<3> = | s a_n .
<4> = | sh i | sh i i | sh i i: | y o_n .
<5> = | g o | g o o: | g o u .
<6> = | r o k u .
<7> = | h i ch i | n a n a | sh i ch i .
<8> = | h a ch i .
<9> = | k u | ky u u | ky u u: .

<rei> = | r e e | r e e: | r e i .
```

(a)

```
<digits>::=<num1><num1><num1><num1>.
<num1>=
0|
1|
2|
3|
4|
5|
6|
7|
8|
9.
```

(b)

```
0 |r e e
0 |r e e:
0 |r e i
0 |z e r o
1 |i c h i
2 |n i
2 |n i i
2 |n i i:
3 |s a_n
4 |s h i
4 |s h i i
4 |s h i i:
4 |y o_n
5 |g o
5 |g o o:
5 |g o u
6 |r o k u
7 |h i c h i
7 |n a n a
7 |s h i c h i
8 |h a c h i
9 |k u
9 |k y u u
9 |k y u u:
```

(c)

```
<digits>::=<num1><num1><num1><num1>.
<num1>=
0|
1|
2|
3|
4|
5|
6|
7|
8|
9.

<0> = |r e e|r e e:|r e i|z e r o.
<1> = |i c h i.
<2> = |n i|n i i|n i i:.
<3> = |s a_n.
<4> = |s h i|s h i i|s h i i:|y o_n.
<5> = |g o|g o o:|g o u.
<6> = |r o k u.
<7> = |h i c h i|n a n a|s h i c h i.
<8> = |h a c h i.
<9> = |k u|k y u u|k y u u:.
```

FIG. 9